

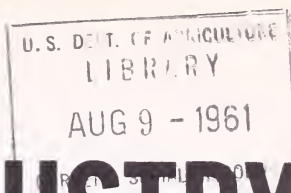
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Growth Through Agricultural Progress

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THE HATCHERY INDUSTRY

- *Structure*
- *Economic Changes*
- *Problems*



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PREFACE

It has been 20 years since a comprehensive study of the commercial hatchery industry was made. In the interim, there have been substantial changes in hatchery technology and practices, numbers and sizes of firms, and the structure of the industry.

A comprehensive study therefore was begun in 1959 at the request of the industry. This first report, based on a nationwide survey, describes the industry and points out some of the problems confronting hatchery managers. It suggests that the future success and survival of many firms will depend on the ability of management to improve utilization of capacity, to lower costs, and to offer chick and poult lines which are generally acceptable. Consequently, more detailed studies are underway to appraise the possibilities of cost reduction through increased operating efficiency and to suggest needed adjustments to changes in technology and industry organization and practices.

CONTENTS

	<u>Page</u>
Preface	3
Summary	5
Why the study was made	7
Procedure	8
Changes in the hatchery industry, 1937-38 to 1958-59	8
Characteristics and practices of hatcheries, 1958-59	11
Number and size by regions	11
Types of eggs hatched	13
Sources of eggs	14
Pricing plans for purchasing hatching eggs	16
Custom hatching	16
Outlets for chicks and poults	16
Methods of delivering chicks and poults	18
Integration of hatching and other enterprises	18
Extent of franchising	19
Utilization of capacity	21
Effect of type of eggs hatched	21
Effect of number of months of operation	22
Effect of size of hatchery	24
Effect of franchising	24
Can utilization of capacity be improved?	27

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SUMMARY

The number of hatcheries in the United States declined more than 50 percent in the 25 years 1935-59. But the average size of firm increased, so that in 1959 and 1960 there was a substantial excess of capacity in the hatchery industry.

The extent to which hatchery capacity is utilized is an important determinant of operating costs. Data obtained from a survey of a nationwide sample of hatcheries indicated wide differences in the number of times incubator capacity was used, in relation to yearly sales.

Large hatcheries generally maintained a higher rate of use of incubator capacity than smaller firms. However, factors in addition to size also are important. Among these are: The number of months of operation during the year, the type of chicks hatched, and the ability to offer breeding lines demanded by today's farm owners and managers.

The highest rate of use of incubator capacity in relation to yearly sales was achieved by hatcheries specializing in broiler-type chicks. Many of these hatcheries operated on a year-round basis. The lowest rates of use were associated with egg-type chick and poult hatcheries operating only a few months of the year.

The decline in number of commercial hatcheries is expected to continue. Three-fourths of the hatcheries which went out of business in the late 1950's had incubator capacities of less than 100,000 eggs. Many small hatcheries operated at a small fraction of annual capacity. Modern breeding methods, which utilize professional geneticists and record-keeping machinery, are too costly for small firms. In addition, many hatcheries, both small and large, have been unsuccessful in developing suitable franchising agreements or alternative arrangements with large and progressive poultry breeders whose stock is in current demand.

While hatching under franchise agreements with breeders has neither provided a complete answer to hatchery volume problems nor enabled hatchery operators to achieve minimum costs, it has enabled many hatcheries to improve their operating performance and their competitive position.

Franchising will be increasingly important in future years, but more attention must be paid by all hatchery operators to cost reduction, including better utilization of incubator capacity.

Of 643 hatcheries responding to a mail questionnaire, 280 obtained hatching eggs under franchising agreements with breeders. There were 30 chicken and 8 turkey breeders represented. However, about half of the franchised hatcheries obtained eggs from four large breeders, illustrating the growing concentration of breeding operations in fewer and larger organizations.

Many hatcheries are parts of broader businesses which involve poultry growing and processing, or sale of supplies. Broiler-type chick hatcheries derive a higher percentage of gross income from hatchery operations than do egg-type chick hatcheries. Poult hatcheries are more dependent on other sources of income than chick hatcheries. This suggests that the broiler hatcheries are more specialized and of larger average size.

Major changes in hatchery characteristics, other than size (incubator capacity) and number of firms, since 1940 are: A higher rate of utilization of capacity and a

longer operating season, less custom hatching, greater reliance on contract flocks for hatching eggs, fewer sales of started chicks, and greater integration of hatching with other production and marketing functions.

More than three-fourths of the nation's hatcheries were found to be located in the North Central, South Central, and South Atlantic regions. The North Central region contains the major areas of surplus egg production and the other regions contain most of the principal commercial broiler States.

THE HATCHERY INDUSTRY

STRUCTURE--ECONOMIC CHANGES--PROBLEMS

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WHY THE STUDY WAS MADE

Many changes in the structure and practices of the poultry industry have occurred since World War II. Technological advances in production and marketing have developed at a rapid rate. New types of firms and business arrangements have evolved to make effective use of these developments.

Hatchery operations have become increasingly linked with breeding, nutrition, flock management, egg assembly, chick and poult distribution, poultry growing, and egg and poultry processing and marketing. Such linkages are referred to as "economic integration".

Higher and more rigid quality specifications resulting from large-volume distribution and intense competition enhanced the need for closer coordination of the various production and marketing functions. The most recent and direct linkage affecting hatcheries has been that with the breeding segment of the industry. Breeding operations have become increasingly concentrated in the hands of a small number of large firms who make use of advanced methods. Many hatcherymen have entered into franchising arrangements to secure the superior strains of birds such breeders offer. Under these arrangements, hatcheries are franchised by breeders to hatch and sell the breeder's strain of birds in specified areas.

Continuing series of statistics have shown a trend toward fewer and larger firms for hatcheries as well as for many other segments of the poultry industry. The number of hatcheries in the United States declined steadily from an all-time high of more than 11,000 firms in the mid-1930's to about 5,000 by 1959. While it was recognized that many hatcheries were now segments of integrated organizations, no detailed overall study of the hatchery industry had been made for more than 20 years. Thus, specific information on hatchery operations, practices, costs, and market structure was limited and out-of-date. Upon the recommendation of the Poultry Research and Marketing Advisory Committee of the U. S. Department of Agriculture and the American Poultry and Hatchery Federation, a study was begun by the Marketing Economics Research Division, Agricultural Marketing Service, in 1959 to obtain needed information.

This report describes and quantifies the principal economic characteristics of the hatchery industry, as determined from a national mail survey covering the year July 1, 1958, to June 30, 1959. The information it presents may help the industry to improve its efficiency, hold down costs, and guide its future development. Because of the dynamic nature of the postwar industry, the gaps in knowledge of its structure and operations have been more serious than in a more static situation. This study, and additional studies now underway, should help provide hatchery operators with guidelines for assessing their present position and making effective economic decisions about future operations.

PROCEDURE

According to the revised hatchery production report issued March 18, 1959, by the Crop Reporting Board, there were nearly 5,200 commercial hatcheries producing broiler and egg-type chicks and turkey poults in the United States. A stratified random sample of 1,045 of these hatcheries was drawn by the Agricultural Estimates Division, AMS. The sample included 10 percent of the hatcheries with less than 100,000-egg capacity; 25 percent of those between 100,000 and 199,999; 50 percent of the 200,000-499,999 group; and 100 percent of those in the 500,000-and-more category.

Questionnaires were mailed to the 1,045 hatcheries in July 1959 by the Marketing Economics Research Division, AMS, requesting data on operations for the year ending June 30, 1959. Replies were received from 733 firms. Of these schedules, 643 were from active commercial hatcheries. The remaining 90 schedules returned were from 61 firms which were out of business and 29 firms which were noncommercial, engaged solely in custom hatching, or unable to furnish the requested information.

The 643 active commercial hatcheries responding were distributed according to incubator capacity as follows: 30 percent with less than 100,000-egg capacity; 22 percent, 100,000-199,999; 26 percent, 200,000-499,999; 21 percent, 500,000 or over; and 1 percent with capacity not specified. The 61 hatcheries which were out of business were distributed in the first four of these respective categories as follows: 76, 13, 10, and 1 percent.

Expansions of the data to represent the entire hatching industry were made where feasible, on the basis of the 704 firms described. Because of the sample size and the rate of response in certain regions and to certain questions on the schedule, some of the information collected was not expanded to regional or to universe totals. Where the data were not so expanded, in this report there is probably some overstatement of the importance of larger firms. However, the data do provide a broad picture of the industry and its practices.

CHANGES IN THE HATCHERY INDUSTRY, 1937-38 to 1958-59

Some of the major changes in the hatchery industry in the 20 years ending in 1959 are summarized in table 1.

There were less than half as many hatcheries in 1959 as there were two decades earlier. Yet total incubator capacity in the United States increased from less than 400 million to almost 600 million eggs. Consequently, average size of hatchery, as measured by incubator capacity, more than tripled. On the basis of the latest available information, the trend toward fewer and larger hatcheries continued in 1960.

The greatest relative decline in number of hatcheries has been in the group with an incubator capacity of less than 25,000 eggs. Net losses in hatchery numbers and incubator capacity have occurred in all size groups below 60,000 eggs. The proportions of numbers of hatcheries in size groups with 60,000 eggs or more have increased, as have the proportions of total incubator capacity in size groups above 100 000 eggs. These shifts are indicative of (1) increased specialization in the hatching function and in breeding work by some processors, (2) the abandonment of these operations by others who chose to specialize in egg and poultry meat production,

Table 1.--Characteristics of the hatchery industry, United States, 1937-38 and 1958-59

Item	August 1, 1937- July 31, 1938 1/	July 1, 1958- June 30, 1959 2/
Number of hatcheries	11,638	5,169
Average incubator capacity (eggs)	34,148	113,533
Percent of hatcheries inactive	9.5	14.5
Number of active hatcheries	10,533	4,418
Percentage of hatcheries with incubator egg capacity of:		
Less than 25,000	56.0	18.8
25,000 - 59,999	28.3	27.6
60,000 - 99,999	8.5	22.3
100,000 - 199,999	5.1	17.1
200,000 - 499,999	1.7	11.0
500,000 and over	0.4	3.2
Percentage of total incubator capacity in hatcheries with egg capacity of:		
Less than 25,000	15.6	2.2
25,000 - 59,999	29.0	9.8
60,000 - 99,999	16.8	14.9
100,000 - 199,999	17.6	21.0
200,000 - 499,999	13.3	29.6
500,000 and over	7.7	22.5
Ratio of number of salable chicks produced to total incubator capacity	1.97	4.31
Percentage of active hatcheries operating:		
4 months or less	40.9	30.1
5 - 8 months	49.6	34.6
9 - 11 months	5.6	8.4
12 months	3.9	26.9
Percentage of active hatcheries owning breeding flocks	62.1	71.9
Percentage of active hatcheries reporting owned flocks as only source of hatching eggs	30.2	37.0
Percentage of active hatcheries doing custom hatching	64.6	18.0
Percentage of active hatcheries selling some started chicks	69.4	29.2
Percentage of active hatcheries acting as dealers in eggs or chicks for other hatcheries	9.5	3/36.5

1/ Data from: Termohlen, W. D., Warren, C. C., and Lamson, G. G. Chick Hatchery Survey, 1937-38. Div. of Mktg. and Mktg. Agreements, U.S. Dept. Agr. May 1940.

2/ Based on 1959 national mail survey by Marketing Economics Research Division, AMS.

3/ Percentage of hatcheries having franchise agreements with breeders of egg-type and broiler-type chickens and of turkeys.

and (3) development of large hatchery units within large, integrated organizations.

At any one time, some enumerated hatcheries are inactive, for a variety of reasons. These include some firms which will be out of business permanently. Almost 15 percent of the hatcheries enumerated at the beginning of 1959 were inactive in the year ending June 30, 1959. This ratio was somewhat higher than was found in the year ending July 31, 1938. This is evidence of the accelerated rate of decline in hatchery numbers in recent years.

In 1937-38, the number of salable chicks produced annually was less than double the total incubator capacity. By 1958-59, salable chicks hatched were more than four times egg capacity. The reasons for this increase were: (1) A more than threefold increase in total hatchery output, (2) less seasonality in the production of eggs and turkeys, and (3) the development of a year-round commercial broiler industry.

A substantial number of hatcheries now operate in every month of the year. More than a third operated in 9 months or more in the 1958-59 year. In comparison, less than one-tenth of the hatcheries operated 9 or more months in the 1937-38 period. Despite the substantial improvement in length of the operating period, hatcheries producing egg-type chicks and poults still experience great difficulty in operating for a long season because the demand for their output still varies seasonally.

In earlier years, when many farmers maintained breeding flocks from which they grew their replacements and market stock, custom hatching was practiced by almost two-thirds of the hatcheries in the United States. By 1958-59, less than a fifth of the hatcheries did custom hatching.

Two decades ago, about 62 percent of the hatcheries owned breeding flocks, and for about 30 percent, these flocks constituted their only source of hatching eggs. In 1958-59, about 72 percent of the hatcheries owned breeding flocks, and 37 percent reported these flocks as the only source of hatching eggs. However, in 1958-59, only 15 percent of the hatcheries with egg capacity of 500,000 eggs and over obtained all hatching eggs from their own flocks, compared to 60 percent for hatcheries with egg capacities under 100,000 eggs. Contract flocks and dealers are now more important sources of hatching eggs for larger firms than in the earlier period.

Almost 70 percent of the hatcheries operating in 1937-38 sold started chicks; by 1958-59, only about 30 percent sold them. The change is probably due to improved brooding technology and the growth of larger and more specialized poultry farms.

In 1937-38, franchising was almost unknown. However, about a tenth of the hatcheries acted as dealers in eggs or chicks for other hatcheries. While no data were obtained on the extent of dealerships in 1958-59, almost two-fifths of the hatcheries reported franchise agreements with breeders of egg-type and broiler chickens and of turkeys. Franchise agreements between breeders and hatcheries provide a closer working relationship than dealerships, plus exclusive rights to handle the particular strain of poultry in that area.

Number and Size by Regions

More than three-fourths of the nation's hatcheries and almost four-fifths of its incubator capacity are located in the North Central, South Central, and South Atlantic regions. The North Central region contains the major surplus egg-producing area and the South Atlantic and South Central regions most of the principal commercial broiler States.

Where market egg production is the predominant poultry enterprise, average size of hatchery is below the national average; where commercial broiler production predominates, hatcheries average larger. Turkey hatcheries average smaller than chick hatcheries.

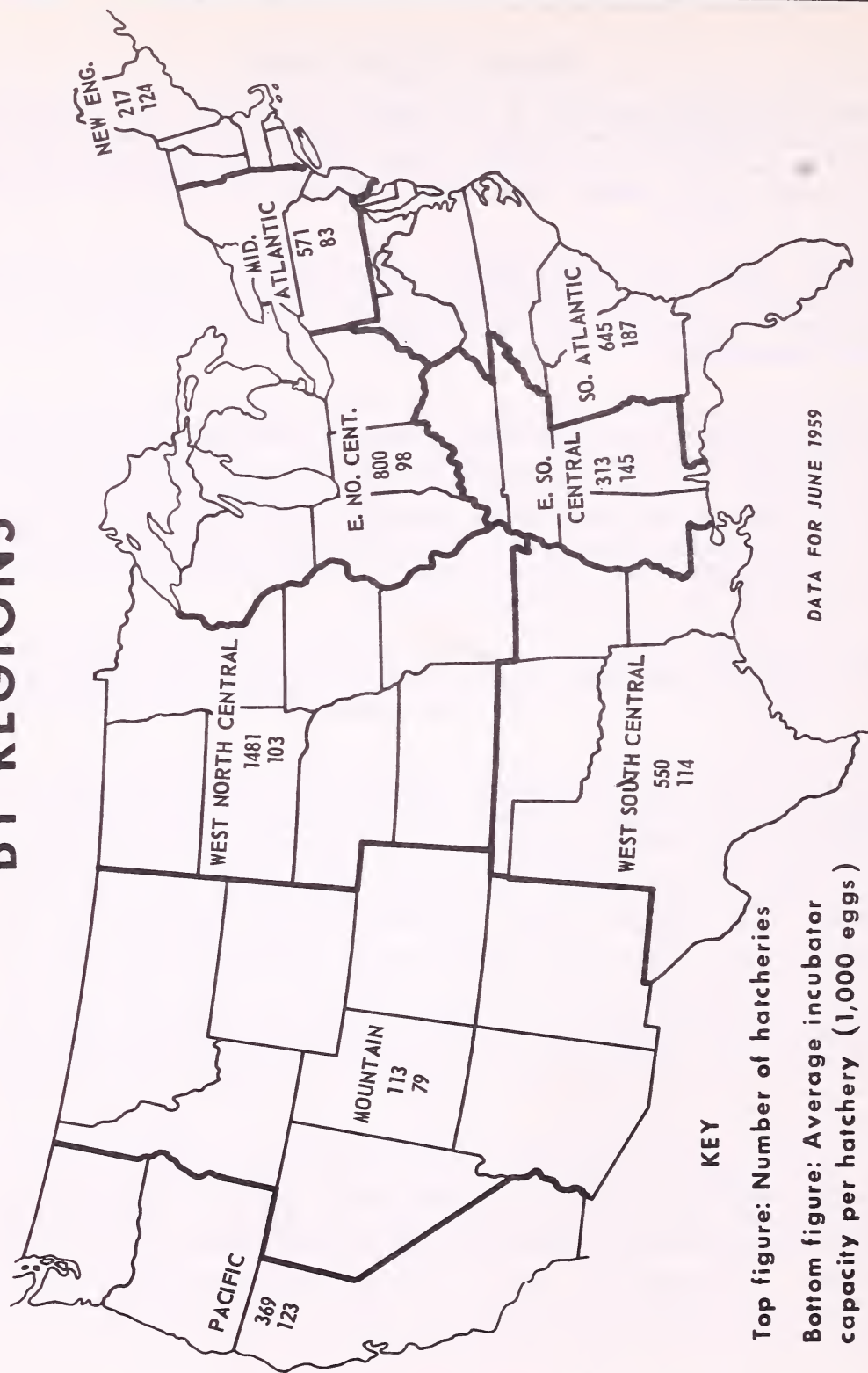
While total incubator capacity in the North Central region is about equal to that in the South Central and South Atlantic regions combined, there are about 40 percent fewer hatcheries in the latter regions and they average about 50 percent larger. In the Middle Atlantic and Mountain regions, egg production is the predominant poultry enterprise, and hatcheries average smaller than for the United States as a whole. In contrast, commercial broiler production is the more important enterprise in the New England and Pacific regions, and hatcheries average larger than the national average (fig. 1 and appendix, table 20).

Data showing a detailed breakdown of hatcheries into size intervals by regions are not regularly published. Hence, the data obtained in the sample survey reported in this publication furnish new information on the distribution of hatcheries of various sizes by regions.

On the basis of the national survey, more than 60 percent of the hatcheries responding in the South Atlantic and East South Central regions, combined, had egg capacities of 200,000 eggs or more. In contrast, 70 percent of the hatcheries in the West North Central region had egg capacities of less than 200,000 eggs. These regions lead in commercial broiler and market egg production, respectively (table 2). The largest number of hatcheries with capacities over 500,000 were in the South Atlantic, East South Central, and West South Central regions. The largest number with capacities of 200,000 to 500,000 were in the South Atlantic, East North Central, and West North Central regions. Of those with 100,000 to 200,000 capacities, the largest number were in the West North Central, East North Central, and South Atlantic regions. Hatcheries with capacities less than 100,000 were mainly in the West North Central, East North Central, and Middle Atlantic regions (table 21).

In earlier years, there were large numbers of small local hatcheries. At the same time, eggs, chicks, and poulters were shipped to many distant points by the larger commercial hatcheries. Although many smaller hatcheries have gone out of business, producers have not had to rely more heavily on distant hatcheries. Many breeders have established branch farms in other regions and have franchised local hatcheries. Consequently, there is now probably as great or greater association between the distribution of hatcheries by regions and the distribution of the production of eggs, broilers, and turkeys by regions as there was a decade or two ago.

NUMBER AND CAPACITY OF HATCHERIES, BY REGIONS



Top figure: Number of hatcheries
Bottom figure: Average incubator capacity per hatchery (1,000 eggs)

DATA FOR JUNE 1959

KEY

Table 2.--Number and sizes of sample hatcheries by regions,
United States, 1958-59

Geographical region	:	:	Percent distribution of hatcheries according to egg capacity of incubators			
			:	:	:	:
	Hatcheries	responding	Under	100,000-	200,000-	500,000
			100,000	199,999	499,999	and over
New England	29		28	14	17	41
Middle Atlantic	53		43	19	19	19
East North Central	93		32	24	33	11
West North Central	147		39	31	21	9
South Atlantic	117		14	17	32	37
East South Central	54		26	17	24	33
West South Central	66		17	24	29	30
Mountain	15		47	20	33	0
Pacific	57		29	25	28	18
Total	631		29	23	26	22

Types of Eggs Hatched

Twenty years ago, commercial broiler production was of minor national importance and turkey output was only a fraction as large as now. The bulk of poultry meat supplies came from fowl and male chickens which were byproducts of the laying flock replacement program. Hence, the majority of hatcheries produced only egg-type chicks. In contrast, almost 2 billion broiler-type chicks were hatched in 1959, compared to almost 600 million egg-type chicks and almost 90 million turkey poults. This shift arises from the tremendous relative and absolute growth of the production of poultry strictly for meat purposes. Moreover, many hatcheries now produce both egg-type and broiler-type chicks and, in some instances, turkey poults as well.

In the sample of 643 hatcheries reporting for 1958-59, 31 percent produced various combinations of chicks of egg and broiler types and turkey poults. The rest specialized in one type. Hatcheries producing only broiler-type chicks constituted 25 percent of the sample; egg-type chicks, 34 percent, and turkey poults, 10 percent (table 3).

Of the 643 hatcheries, 340 produced broiler-type chicks, 404 egg-type chicks, and 119 turkey poults. However, if the 643 hatcheries were classified according to the major type of eggs they hatched (50 percent or more), there were 340 broiler-type, 236 egg-type, and 67 poult-type in the sample.

The largest number of hatcheries producing broiler-type chicks were in the South Atlantic, East South Central, and West South Central regions. Most of those hatching mainly egg-type chicks were located in the West North Central, East North Central, and Middle Atlantic regions. Those hatching only poults were principally in the Pacific and West North Central regions. The hatcheries which produced both broiler and egg-type chicks were rather evenly distributed through all nine regions (table 22).

Table 3.--Number of sample hatcheries producing egg-type and broiler chicks and turkey poults, U. S., 1958-59

Hatchery type	:	Number of hatcheries
Broiler-type chicks	:	160
Egg-type chicks	:	217
Turkey poults	:	67
Broiler-type and egg-type chicks	:	147
Broiler-type and egg-type chicks and turkey poults	:	21
Broiler-type chicks and turkey poults	:	12
Egg-type chicks and turkey poults	:	19
Total	:	643

Sources of Eggs

The principal sources of hatching eggs used by commercial hatcheries in 1958-59 were (1) flocks they maintained on their own farms, and (2) flocks under contract to the hatchery. Forty percent of the hatcheries which produced broiler-type chicks obtained some eggs from contract flocks, and 33 percent of the hatcheries obtained some eggs from their own flocks. Of those hatcheries producing egg-type chicks, 40 percent obtained some eggs from their own flocks and 39 percent utilized contract flocks. About 42 percent of the hatcheries producing turkey poults produced some eggs on their own farms, and 27 percent obtained some eggs from contract flocks. The rest of the hatching eggs in each case were obtained from dealers and other sources (table 4).

More than half of the hatcheries obtained eggs from only one type of source. For hatcheries producing broiler-type chicks, contract flocks most frequently occupied this role. For hatcheries producing egg-type chicks, such sources were usually either contract flocks or the hatchery's own flocks. For hatcheries producing turkey poults and obtaining eggs from only one source, the most common source was their own flocks. As hatcheries moved toward a mixed procurement program (involving two or more types of sources), dealers and others increased in importance, though the hatcheries' own farms and contract flocks still were the most frequently used sources.

In general, as hatcheries increased in size, contract flocks became a more frequent source of hatching eggs. This development occurred at the expense of their own farms, dealers, and others. The shift from their own flocks toward contract flocks, as hatchery size increased, was most pronounced for those hatcheries producing turkey poults (table 5).

As the degree of concentration increases in the breeding industry, and as hatchery operation becomes more closely tied to the breeding industry through franchising, then dealers and other sources will be less frequently used to obtain hatching eggs. This will mean a further increase in the relative importance of contract flocks and probably, to a lesser extent, in flocks owned by the hatcheries.

Table 4.--Sources of hatching eggs in 643 hatcheries, by number of sources used,
U. S., 1958-59 ^{1/}

Hatchery product and number of sources of eggs	Hatch- eries	Sources	Percentage distribution of sources				
			All sources	Own farms	Contract flocks	Dealers	Others
	Number	Number	Percent	Percent	Percent	Percent	Percent
Broiler-type chicks:							
Single source	175	175	100	29	50	14	7
Two or more sources	165	366	100	35	35	17	13
Total	340	541	100	33	40	16	11
Egg-type chicks:							
Single source	242	242	100	42	44	5	9
Two or more sources	162	322	100	38	34	13	15
Total	404	564	100	40	39	9	12
Turkey poults:							
Single source	67	67	100	51	28	15	6
Two or more sources	52	104	100	36	26	15	23
Total	119	171	100	42	27	15	16

^{1/} Some hatcheries handle more than one type of hatching eggs and use more than one source of eggs.

Table 5.--Sources of hatching eggs used by 643 hatcheries, of various sizes,
U. S. 1958-59 ^{1/}

Hatchery product and incubator capacity (Thousand eggs)	Hatch- eries	Sources	Percentage distribution of sources				
			All sources	Own farms	Contract flocks	Dealers	Others
	Number	Number	Percent	Percent	Percent	Percent	Percent
Broiler-type chicks:							
Under 100	49	66	100	38	29	26	7
100 - 199	61	80	100	36	34	15	15
200 - 499	111	183	100	36	43	11	10
500 and over	119	212	100	28	42	18	12
Total	340	541	100	33	40	16	11
Egg-type chicks:							
Under 100	136	164	100	43	33	12	12
100 - 199	101	143	100	35	38	10	17
200 - 499	105	145	100	39	45	7	9
500 and over	62	92	100	41	42	5	12
Total	404	564	100	40	39	9	12
Turkey poults							
Under 100	46	58	100	67	9	12	12
100 - 199	31	44	100	32	27	18	23
200 - 499	27	44	100	34	39	9	18
500 and over	15	25	100	12	48	28	12
Total	119	171	100	42	27	15	16

^{1/} Some hatcheries handle more than one type of hatching eggs and use more than one source of eggs.

Pricing Plans for Purchasing Hatching Eggs

The type of hatchery is important in determining the emphasis placed on alternative pricing plans used in purchasing hatching eggs. The two plans in widest usage relate the price paid for hatching eggs (1) to the current price of chicks or poults, or (2) to the current market price for table eggs or the prevailing level of prices for turkey eggs. Most plans involving the current market price for table eggs arrive at a chicken hatching-egg price by adding a premium of a specified number of cents per dozen (table 6).

Pricing plans based on the current price of chicks are most popular with broiler chick hatcheries. In contrast, most egg-type chick hatcheries rely on a system of premiums over a local table egg market price. Other plans are used by the majority of turkey poult hatcheries. Of these, the guaranteed-fertility basis is most common.

It is likely that future pricing plans for broiler-chick and turkey hatching eggs will be increasingly related to chick or poult prices or to the price obtained for the poultry when sold for meat. Prices for egg-type chick hatching eggs, on the other hand, may remain more closely related to table egg prices. However, primary breeders furnishing eggs to multiplier hatcheries are likely to determine prices somewhat in relation to costs.

Custom Hatching

Due largely to the increased concentration in the breeding industry because of the high investment required and complexity of modern methods, custom hatching is performed by less than a fifth of commercial hatcheries. In the sample of 576 firms producing chicks, only 97 offered custom-hatching service. However, 50 of the 119 firms producing poults engaged in this practice (table 7).

The highest proportions of hatcheries performing custom-hatching of chicks were in the Southern, New England, and Pacific regions. Custom hatching of poults was of greatest relative importance in the North Central, South Atlantic, West South Central, and Pacific regions, where turkey production is an important enterprise.

Custom hatching charges averaged more than 2 1/2 cents per chick and about 6 1/2 cents per turkey poult.

Outlets for Chicks and Poults

Contract growers ^{1/} were the most frequently used outlet for the output of hatcheries producing broiler-type chicks. In contrast, independent growers were the most common outlet for hatcheries producing egg-type chicks. About three-fourths of the hatcheries producing broiler and egg-type chicks used contract growers or independent growers as outlets for chicks. Hatcheries producing turkey poults relied more heavily on their own farms as outlets than did the chick hatcheries, this outlet being used nearly as frequently as independent growers (table 8). Of the hatcheries, 194, or 30 percent, produced started pullets. The proportion of started

^{1/} These growers operate under verbal or written contracts with hatcheries and feed dealers or processors. They provide labor, equipment, housing, and utilities; the contractor provides chicks, feed, litter, and medication.

Table 6.--Importance of different pricing plans used in purchasing hatching eggs by sample hatcheries, United States, 1958-59

Pricing plans based upon:	Type of hatchery											
	Broiler chicks		Egg-type chicks		Turkey poults		Broiler & egg-type chicks		Other combinations ^{1/}		Total reporting	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Current price of chicks or poults	70	50	6	4	13	36	34	23	15	28	138	25
Premium over table egg price	21	15	117	70	4	11	71	47	25	47	238	44
Other ^{2/}	50	35	44	26	19	53	45	30	13	25	171	31
Total	141	100	167	100	36	100	150	100	53	100	547	100

^{1/} Broiler-type and egg-type chicks and poults; broiler chicks and poults; egg-type chicks and poults. ^{2/} Other egg pricing plans reported were as follows:

- (a) Fixed prices of franchisers which applied largely to eggs for hatching egg-type chicks.
- (b) Contract prices for broiler-type eggs, which occasionally included a premium for hatchability.
- (c) Flat prices for hatching eggs throughout the season.
- (d) Prices which depended on State hatching egg reports.
- (e) Prices which were adjusted according to a sliding scale of chick prices.
- (f) Prices of turkey eggs which (with few exceptions) were purchased on a guaranteed-fertility basis.

Table 7.--Number of sample of 643 hatcheries performing custom-hatching of chicken and turkey eggs and average charges, United States, 1958-59

Geographical region	Chick hatcheries			Poult hatcheries		
	Reporting custom hatching	Proportion of sample hatcheries producing chicks	Average charge per 100 chicks	Reporting custom hatching	Proportion of sample hatcheries producing poults	Average charge per 100 poults
	Number	Percent	Dollars	Number	Percent	Dollars
New England	5	20	2.58	1	20	^{1/}
Middle Atlantic	5	11	2.05	--	--	--
East North Central	9	10	3.83	5	38	6.60
West North Central	14	10	4.15	11	42	6.64
South Atlantic	24	21	2.14	7	54	6.64
East South Central	14	27	2.03	1	17	^{1/}
West South Central	16	25	2.48	11	58	5.95
Mountain	--	--	--	1	14	^{1/}
Pacific	10	27	2.59	13	54	6.12
Total	97	17	2.69	50	42	6.45

^{1/} Not shown separately to avoid disclosure of data for individual firms.

Table 8.--Outlets for chicks and poult used by 643 hatcheries,
United States 1958-59 ^{1/}

Hatchery product	Hatch- eries	Out- lets	Percentage distribution of outlets				
			All	Own	Contract	Independ-	Others
			outlets	farms	farms	ent farms	
	Number	Number	Percent	Percent	Percent	Percent	Percent
Broiler-type chicks	340	571	100	13	45	30	12
Egg-type chicks	404	609	100	17	17	57	9
Turkey poult	119	190	100	31	19	39	11
All products	863	1,370	100	17	29	43	11

^{1/} Some hatcheries handle more than one type of poultry and use more than one type of outlet.

pullets to the number of chicks sold by a hatchery varied from less than 5 to 60 percent. About 74 percent of the hatcheries producing pullets estimated the proportion of started pullet sales at less than 20 percent of total sales, 14 percent of the hatcheries estimated pullet sales at 20 to 40 percent, and 12 percent of the hatcheries estimated pullet sales at 40 to 60 percent.

Methods of Delivering Chicks and Poult

Delivery by hatchery truck was the most common method of transporting chicks and poult to customers. Hatcheries producing broiler chicks used this method to a greater extent than other hatcheries. On the other hand, hatcheries producing egg-type chicks and turkey poult relied more heavily on parcel post and pickup at the hatchery by the customer. Air express was used to a minor extent by most types of hatcheries (table 9).

Integration of Hatching and Other Enterprises

Many hatcheries sell allied products or engage in other operations and services to round out their business. Others are a contributory part of large-scale integrated organizations. The relation of hatchery sales to gross income is one measure of the integration of hatching with other functions.

In this respect, three-fifths of the broiler hatcheries get 75 to 100 percent of gross income from hatchings. In contrast, only 35 percent of the egg-type chick hatcheries get 75 to 100 percent of gross income from hatchings, which shows that egg-type chick hatcheries are more dependent on other products and services than the broiler hatcheries. Forty-nine percent of the poult hatcheries receive 1 to 24 percent of their gross income from hatchings, which indicates that poult hatcheries are more dependent on other sources of income than the chick hatcheries as a group (table 10).

Table 9.--Methods of delivering chicks and poults used by 643 hatcheries,
United States, 1958-59 ^{1/}

Type of hatchery	Hatcheries	Delivery methods	Percentage distribution of				
			All methods	Hatchery truck	Parcel Post	Air express	Picked up at hatchery
	Number	Number	Percent	Percent	Percent	Percent	Percent
Broiler-type chicks	160	195	100	78	7	4	11
Egg-type chicks	217	430	100	34	22	6	38
Turkey poults	67	94	100	50	21	5	24
Broiler and egg-type chicks	147	346	100	37	30	4	29
Broiler and egg-type chicks and turkey poults	21	54	100	31	30	8	31
Broiler chicks and turkey poults	12	15	100	80	13	---	7
Egg-type chicks, and turkey poults	19	41	100	34	24	---	42
Total	643	1,175	100	44	22	5	29

^{1/} Some hatcheries use more than one method of delivery.

A large proportion of the broiler and egg-type chick hatcheries were selling poultry feeds, medicines, equipment, farm supplies, and farm products. By contrast, a large proportion of the poult hatcheries were allied with other operations and services such as poultry processing, contract production of poultry products, growing turkeys, hogs, and cattle, and general farming.

The distribution of hatcheries with incubator capacities less than 100,000 and in the group receiving 1 to 24 percent of gross income from hatchings was as follows: 77 percent of the poult hatcheries, 22 percent of the broiler hatcheries, and 69 percent of the egg-type chick hatcheries.

In the East North Central and Mountain regions, about a third of the hatcheries obtained less than 25 percent of their income from sales of chicks and poults. In contrast, about three-fifths of the hatcheries in the New England, Middle Atlantic, South Atlantic, West South Central, and Pacific regions obtained 75 to 100 percent of their gross income from sales of chicks and poults (table 11).

Extent of Franchising

About two-fifths of the hatcheries in the sample of 643 were franchised by breeders to hatch and sell designated strains of chicks or poults within particular areas. About half of the franchised hatcheries were in the East North Central and West North Central regions, the major surplus egg area (table 12).

Table 10.--Importance of sales of chicks and poults to gross income of hatcheries
by type of hatchery, United States 1958-59

Proportion of hatchery sales to gross sales	Type of hatchery								Total	
	Broiler		Egg type		Broiler and egg types combined		Poult			
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Percent										
1 - 24	27	19	39	19	24	17	25	49	115	22
25 - 49	15	11	46	23	15	10	7	14	83	15
50 - 74	12	9	46	23	28	19	6	12	92	17
75 - 100	85	61	71	35	77	54	13	25	246	46
Total	139	100	202	100	144	100	51	100	536	100
Percent	26		38		27		9			100

Table 11.--Importance of sales of chicks and poults to gross incomes
of hatcheries, by regions, 1958-59

Proportion of hatchery sales to gross sales	Hatcheries in--															
	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	West South Central	East South Central	Mountain	Pacific							
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Percent																
1 - 24	6	24	10	20	29	36	23	18	18	18	8	17	8	16	4	29
25 - 49	2	8	6	12	7	8	35	27	14	15	9	19	3	6	3	21
50 - 74	2	8	6	12	18	22	39	30	9	9	4	8	4	8	4	29
75 - 100	15	60	28	56	28	34	32	25	56	58	26	56	35	70	3	21
Total	25	100	50	100	82	100	129	100	97	100	47	100	50	100	14	100

Table 12.--Number and percentages of franchised hatcheries, by regions, 1958-59

Geographical regions	Hatcheries reporting in sample				Hatcheries under franchise			
	Number		Percent distribution		Number		Percent of sample	
New England	29	10	3				34	
Middle Atlantic	53	28	10				53	
East North Central	93	51	18				55	
West North Central	150	86	31				57	
South Atlantic	119	29	10				24	
East South Central	55	16	6				29	
West South Central	69	30	11				43	
Mountain	18	9	3				50	
Pacific	57	21	8				37	
Total	643	280	100				44	

The 280 franchised hatcheries in the sample were under agreement to only 38 chicken and turkey breeders. Twelve breeders accounted for 90 percent of the hatcheries franchised. Furthermore, half of the franchised hatcheries obtained stock from only four breeders. This situation indicates the high degree of concentration in the breeding industry.

The 280 hatcheries held a total of 322 franchise agreements. Of these, 16 were on turkeys, 36 on broilers, and the remaining 270 on egg-type chicks. There were 8 turkey breeders, 9 broiler breeders, and 21 egg-type poultry breeders represented in the franchises reported. Not only are egg-type poultry breeders more numerous than broiler breeders, but on the average they each franchise more hatcheries. Often there are several egg-type chick hatcheries franchised by the same breeder in an area as small as one or two States.

There were 263 hatcheries franchised by egg-type chick breeders, 20 by broiler breeders, and 15 by turkey breeders. Of the 280 franchised hatcheries, only 26 held 2 or more franchises. These multiple-franchised hatcheries involved, in various cases, two or more strains of egg-type or broiler chicks or turkeys, or one or more strains of each type. Many of the hatcheries franchised for broiler chicks handled both male and female lines.

In addition to the 280 franchised hatcheries, the sample of 643 hatcheries included the home plants of 16 egg-type chick, 3 broiler, and 3 broiler and egg-type breeders, and 6 regional distributors (or owned branch hatcheries) of egg-type chick or broiler breeders. If these additional hatcheries are included, almost half of the sample hatcheries were part of integrated organizations (table 13).

The 280 franchised hatcheries were distributed according to incubator capacity as follows: Under 100,000 eggs, 23 percent; 100,000-199,999, 28 percent; 200,000-499,999, 30 percent; and 500,000 and over, 19 percent. Generally, breeding plants and their branches and regional distributors operate hatcheries of larger-than-average capacity. The inclusion of this group would result in a distribution weighted more heavily toward the larger size intervals.

UTILIZATION OF CAPACITY

One measure of the operating efficiency of hatcheries is the extent to which incubator capacity is used during the year. Even if variable costs per unit of output do not decline materially as the percentage utilization of capacity increases, the spreading of fixed costs over larger volume would result in lower costs per unit of output. The incubation period for chicken eggs is 21 days and for turkey eggs, 28 days. Assuming an average of 3 days between hatches to clean up and service machines, it would be possible to attain the use of incubator capacity over 15 times a year for chicken eggs and about 12 times for turkey eggs. These figures furnish a yardstick by which performance can be compared.

The main factors which affect the annual rate of utilization of incubator capacity are: (1) Types of eggs hatched, (2) number of months of operation, (3) size of hatchery, and (4) franchising.

Effect of Type of Eggs Hatched

Hatcheries producing broiler chicks had the smallest percentages of unused capacity. In contrast, the hatcheries producing egg-type chicks or poults had low

Table 13.--Distribution of integrated and nonintegrated hatcheries, by type, United States, 1958-59.

Hatchery type	Integrated hatcheries <u>1/</u>		Nonintegrated hatcheries	
	No.	Pct.	No.	Pct.
Broiler-type chicks only	15	5	145	43
Egg-type chicks only	144	47	73	22
Turkey poults only	7	2	60	18
Broiler-type and egg-type chicks	113	37	34	10
Other combination <u>2/</u>	29	9	23	7
Total	308	100	335	100

1/ Franchised hatcheries plus breeder-hatcheries plus owned branch hatcheries plus regional distributor-hatcheries.

2/ Broiler-type and turkey; egg-type chick and turkey; broiler-type, egg-type, and turkey.

turnovers and large unused incubator capacities (a "turnover" is one full use of incubator capacity). When hatcheries produced both egg-type and broiler chicks, the combined turnovers improved and a greater proportion of incubator capacity was utilized than when only egg-type chicks were produced (table 14).

The turnovers of annual incubator capacity for 539 chick hatcheries ranged from less than 0.5 to over 10.5. The impact of type of eggs hatched is also apparent from regional tabulations. In the West North Central region, where production of egg-type chicks predominates, 109 hatcheries, or 85 percent of the regional total, had incubator capacity turnovers of less than 3. In contrast, in hatcheries in the South Atlantic region, which produces mainly broiler chicks, 90 hatcheries, or 84 percent, had incubator capacity turnovers between 3 and 10 (table 15).

Effect of Number of Months of Operation

As the number of months of operation per year increases, the utilization of annual incubator capacity tends to rise. This holds true for each type of hatchery (table 16).

There was a wide difference, by type of hatchery, in the extent to which year round operation was achieved, as well as in the percentage of utilization of capacity reached. About 84 percent of the broiler hatcheries operated 12 months of the year. Over two-thirds of these hatcheries had capacity turnovers greater than 7. 2/ By contrast, only about 25 percent of the egg-type chick hatcheries operated 12 months of the year, and over two-thirds of these hatcheries had turnovers not exceeding 4.

Better results were obtained by the hatcheries which produced both broiler and egg-type chicks than by hatcheries producing only egg-type chicks. A higher percentage of these operated throughout the 12 months, and the number of hatches about doubled, which increased their capacity turnovers to more than 4.

2/ The number of turnovers is obtained by dividing the total number of chicks or poults hatched annually by the rated incubator capacity of the hatchery.

Table 14.--Turnover of incubator capacity in relation to types of eggs hatched, 553 hatcheries, United States, 1958-59

Turnover ratio groups 1/	Distribution of hatcheries by type of eggs hatched							
	Broiler chicks 2/		Egg-type chicks		Broiler and egg-type chicks		Poults	
	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
10 and over	21	13.8			6	4.5		
9 - 9.9	22	14.5			7	5.2		
8 - 8.9	26	17.2	2	1.0	8	6.0		
7 - 7.9	24	15.8	1	0.5	6	4.5		
6 - 6.9	9	5.9	1	0.5	11	8.2		
5 - 5.9	15	9.9	5	2.4	18	13.4		
4 - 4.9	14	9.2	10	4.9	9	6.7	2	3.1
3 - 3.9	6	3.9	22	10.8	8	6.0	3	4.7
2 - 2.9	6	3.9	43	21.2	24	17.9	10	15.7
1 - 1.9	4	2.6	86	42.4	20	14.9	30	46.8
Under 1	5	3.3	33	16.3	17	12.7	19	29.7
Total	152	100.0	203	100.0	134	100.0	64	100.0

1/ Annual volume hatched divided by incubator capacity (eggs).

2/ Four broiler hatcheries had turnovers as follows: 11.5 - 12.6 - 14.4 - 15.3.

Table 15.--Distribution of incubator capacity turnovers of 539 chick hatcheries in 9 regions

Region	Incubator capacity turnovers											
	Under 1	1-1.9	2-2.9	3-3.9	4-4.9	5-5.9	6-6.9	7-7.9	8-8.9	9-9.9	10 and over 1/	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	Pct.
New England	3	5	2	--	3	--	1	4	2	2	3	25
Middle Atlantic	6	7	9	7	4	5	1	--	1	2	2	44
East No. Cent.	13	25	18	7	6	4	5	--	2	1	2	83
West No. Cent.	25	59	25	9	1	4	2	2	--	1	--	128
South Atlantic	5	7	5	12	12	5	7	19	15	12	8	107
East So. Cent.	4	5	4	--	4	10	3	3	4	6	5	48
West So. Cent.	4	7	5	2	3	7	5	4	9	5	8	59
Mountain	1	3	5	1	--	--	--	--	--	--	1	11
Pacific	1	6	6	2	4	5	2	--	4	3	1	34
Total	62	124	79	40	37	40	26	32	37	32	30	539
Percent	12	23	14	7	7	7	5	6	7	6	6	

Table 16.--Turnover of incubator capacity in relation to number of months of operation, 553 hatcheries, United States 1958-59

Months operated per year	Percentage distribution of hatcheries and turnover ratio by type of eggs hatched 1/							
	Broiler chicks		Egg-type chicks		Broiler and egg-type chicks		Poults	
	Percent	2/	Percent	2/	Percent	2/	Percent	2/
4 or less	0.6	4.7	32.5	1.2	8.1	0.9	32.9	0.8
5 - 8	10.6	4.2	33.5	1.7	17.1	2.1	53.0	1.6
9 - 11	4.5	5.1	8.4	2.1	5.2	5.7	9.4	2.8
12	84.3	7.5	25.6	3.5	69.6	5.2	4.7	3.5
Total	100.0		100.0		100.0		100.0	

1/ 152 broiler-type, 203 egg-type, 134 broiler-type and egg-type, and 64 poult hatcheries.

2/ Annual volume hatched divided by incubator capacity (eggs).

The poult hatcheries had the lowest incubator capacity turnovers, and they operated the fewest months, compared to the two chick hatchery groups. Whereas many of the chick hatcheries have developed closer to year-round hatching operations, only 5 percent of the poult hatcheries operated 12 months of the year. None of the poult hatcheries had more than five incubator capacity turnovers, and 75 percent of them had turnovers less than 2.

Effect of Size of Hatchery

Hatcheries with capacities of 500,000 eggs or more had the highest average turnovers (with one exception), and hatcheries with less than 100,000-egg capacities had the lowest average turnovers (table 17). However, further study of hatchery capacities, months operated, and costs may show that a small hatchery can be operated advantageously as a sideline to a business which specializes in poultry products and services. As indicated previously, hatchery sales of egg-type chicks or poults represented a much smaller proportion of gross income than the sales of broiler chicks.

Broiler hatcheries.--The largest percentage of the broiler hatcheries was in the group with capacities of 500,000 eggs or more. The average turnovers of those hatcheries in the two largest size groups were nearly identical, and they were the largest turnovers.

Egg-type chick hatcheries.--The largest percentage of the egg-type hatcheries was in the group with less than 100,000-egg capacities, with an average turnover of less than 2.

Broiler and egg types combined.--The combination of broiler and egg types utilized incubator capacities to better advantage than the hatcheries producing only egg-type chicks. They had a larger proportion in the larger size groups and obtained much higher turnovers.

Poult hatcheries.--A larger proportion of poult hatcheries (57 percent) were in the smallest size group, compared to the other types of hatcheries. The average turnover of incubator capacities was less than two for these poult hatcheries in the smallest size group.

Effect of Franchising

Franchising generally enabled hatcheries to make fuller use of their incubator capacities. In each of four size groups, the franchised hatcheries usually had higher ratios of turnover of incubator capacity in relation to sales than did nonfranchised hatcheries. Moreover, the average number of months which franchised hatcheries operated usually exceeded the operating season for the nonfranchised group. These conclusions held for hatcheries handling various types of eggs (table 18).

Twenty-nine chick breeders were included in the nonfranchised group of hatcheries. In all instances, the average turnovers of these breeder hatcheries were significantly lower than the average turnovers reported in table 18 by the franchised hatcheries.

As an important and expanding feature of the hatchery industry, franchising has benefited many hatcheries by enabling them to make better use of their incubator

Table 17.--Incubator capacity turnovers in relation to type of chicks or poults sold by 603 hatcheries 1/

Hatchery type	Incubator egg capacity				
	Under 100,000	100,000 to 199,999	200,000 to 499,999	500,000 and over	Total
Broiler type:					
No. hatcheries	15	23	50	64	152
Percent	10	15	33	42	100
Ave. turnovers	4.8	5.5	7.8	7.7	
Egg type:					
No. hatcheries	91	55	39	18	203
Percent	45	27	19	9	100
Ave. turnovers	1.5	2.3	2.8	3.2	
Poults:					
No. hatcheries	36	13	11	4	64
Percent	57	20	17	6	100
Ave. turnovers	1.7	1.7	2.1	2.6	
Broiler and egg type:					
No. hatcheries	29	27	46	33	135
Percent	21	20	34	25	100
Ave. turnovers	2.5	3.0	5.5	5.6	
Broiler-poult:					
No. hatcheries	---	6	2	3	11
Percent	---	55	13	27	100
Ave. turnovers, chicks	---	5.7	4.2	5.6	
Ave. turnovers, poults	---	0.9	0.6	1.5	
Broiler, egg, and poult:					
No. hatcheries	4	3	8	5	20
Percent	20	15	40	25	100
Ave. turnovers, chicks	4.7	1.9	4.9	6.3	
Ave. turnovers, poults	0.2	1.5	2.3	1.8	
Egg and poult:					
No. hatcheries	5	7	5	1	18
Percent	28	38	28	6	100
Ave. turnovers, chicks	1.4	1.7	1.2	4.0	
Ave. turnovers, poults	0.6	1.0	1.4	1.0	

1/ Forty hatcheries did not report data for determining turnovers.

Table 18.--Average turnovers of franchised hatcheries compared to nonfranchised, by incubator capacity

Hatchery type	Franchised chick hatcheries 1/						Nonfranchised chick hatcheries 2/					
	Under :100,000	:100,000- :199,999	:200,000- :499,999	:500,000- : and over:	Total	Under :100,000	:100,000- :199,999	:200,000- :499,999	:500,000- : and over:	Total		
Broilers												
Number hatcheries	---	2	2	5	9	15	22	43	62	142		
Percent	---	22	22	56	100	11	15	30	44	100		
Average turnovers	---	6.7	10.5	8.9	8.8	4.6	5.3	7.7	7.7	7.0		
Average number months operated	---	10.0	12.0	12.0	11.6	8.8	10.8	11.7	11.5	11.2		
Egg-type chicks												
Number hatcheries	46	49	33	10	138	45	10	9	7	71		
Percent	33	36	24	7	100	63	14	13	10	100		
Average turnovers	1.7	2.3	2.6	2.4	2.2	1.3	1.9	2.6	3.2	1.7		
Average number months operated	6.0	7.4	8.6	8.9	7.4	4.6	6.9	8.7	9.1	5.9		
Broiler and egg-type												
Number hatcheries	19	23	39	33	114	13	7	12	4	36		
Percent	17	20	34	29	100	37	19	33	11	100		
Average turnovers	3.4	3.7	4.9	5.6	4.6	1.6	2.2	5.1	5.1	3.3		
Average number months operated	7.1	9.4	11.4	11.7	10.4	6.0	9.4	11.0	12.0	9.0		
Total hatcheries					261					249		

1/ Nineteen franchised hatcheries did not report data for turnovers.

2/ Data incomplete for 106 nonfranchised hatcheries.

capacities. In large part, this is because the strains offered by large breeders are in great demand.

Insofar as the breeders are concerned, costs of hatchery operation may be a small component of their selling prices. A larger share of their costs stems from the modern scientific breeding programs and the necessary staffs of specialists and expensive equipment. It is also probable that the seasonal variation in sales of breeding stock is even greater than the seasonality of demand for commercial chicks. These forces may mean that the breeders have paid less attention, thus far, to the efficiency of hatchery operations than the commercial hatchery group.

Can Utilization of Capacity be Improved?

Despite the reductions in number of firms which have occurred, there is a substantial excess of capacity in the commercial hatchery industry. If judged by the total annual capacity, almost half of the capacity of broiler hatcheries is unused. More than three-fifths of the capacity of hatcheries producing broiler and egg-type chicks, and about four-fifths of the capacity of hatcheries producing only egg-type chicks or poults is unused (table 19).

Some hatcheries have apparently improved their utilization of capacity by producing both broiler and egg-type chicks. Can other hatcheries hope to reduce costs by such an approach?

Changes in annual output of chicks and poults occur from year to year in response to market price changes on the ultimate products. Basically, however, the number of chicks and poults required is influenced to an important extent by the seasonality of egg, turkey, and broiler production. The seasonal demand for chicks or poults is a reflection of the needs for marketable broilers 2 to 3 months later, turkeys 3 to 6 months later (depending on type), or pullets to be added to egg-laying flocks 5 to 6 months later.

On this basis, opportunities seem limited for achieving greater use of capacity until the seasonality of demand for and output of the ultimate products is lessened. Moreover, the peaks in hatchings of broiler and egg-type chicks and poults overlap to some extent. While individual hatcheries, in particular circumstances or with a low level of operation to start, could improve their utilization of capacity, the overall possibilities for the industry seem limited. Therefore, excess capacity for hatcheries, particularly those producing egg-type chicks or poults, seems likely to remain characteristic for some time to come (fig. 2).

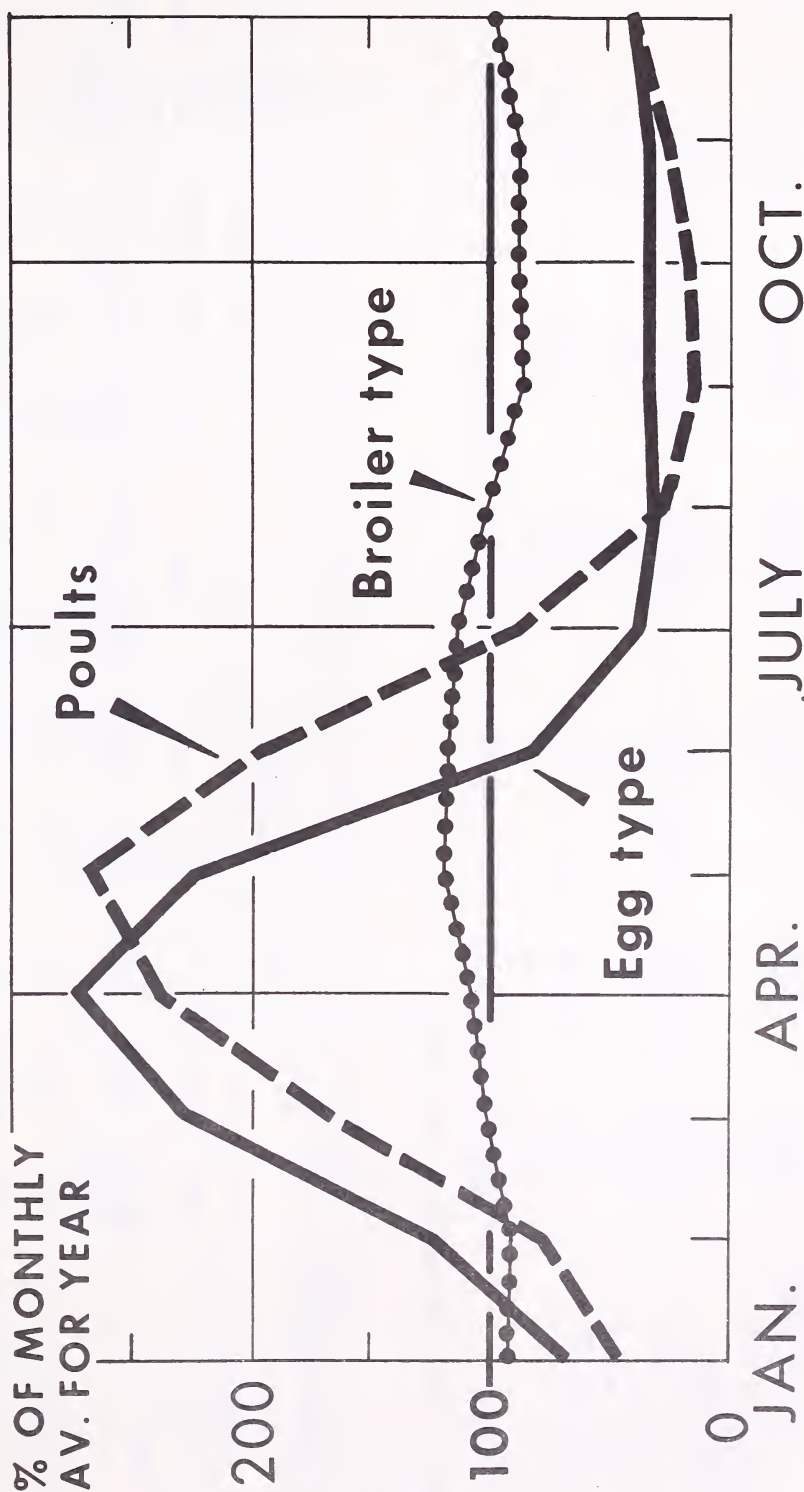
Table 19.--Unused total yearly capacity of hatcheries reporting, according to the midpoint incubator capacity of each group 1/

Type of hatchery	Capacity				
	50 Thousand	150 Thousand	350 Thousand	1,250 <u>2/</u> Thousand	Total
Broiler type:					
Number hatcheries	15	23	50	64	152
Chick capacity	750	3,450	17,500	80,000	101,700
Used capacity	3,600	18,975	136,500	616,000	775,075
Total capacity	11,250	51,750	262,500	1,200,000	1,525,500
Unused capacity	7,650	32,775	126,000	584,000	750,425
Percent unused capacity	68	63	48	49	49
Egg type:					
Number hatcheries	91	55	39	18	203
Chick capacity	4,550	8,250	13,650	22,500	48,950
Used capacity	6,825	18,975	38,220	72,000	136,020
Total capacity	68,250	123,750	204,750	337,500	734,250
Unused capacity	61,425	104,775	166,530	265,500	598,230
Percent unusea capacity	90	85	81	79	81
Broiler and egg type:					
Number hatcheries	29	27	46	33	135
Chick capacity	1,450	4,050	16,100	41,250	62,850
Used capacity	3,625	12,150	88,550	231,000	335,325
Total capacity	21,750	60,750	241,500	618,750	942,750
Unused capacity	18,125	48,600	152,950	387,750	607,425
Percent unused capacity	83	80	63	63	64
Poults:					
Number hatcheries	36	13	11	4	64
Chick capacity	1,800	1,950	3,850	5,000	12,600
Used capacity	3,060	3,315	8,085	13,000	27,460
Total capacity	21,600	23,400	46,200	60,000	151,200
Unused capacity	18,540	20,085	38,115	47,000	123,740
Percent unused capacity	86	86	82	78	82

1/ The midpoint of 1,250,000 was selected as representative of hatcheries with incubator capacities ranging from 500,000 to 2,000,000 eggs. Five other hatcheries with incubator capacities ranging from 2,250,000 to 9,570,000 eggs were not included in determining the midpoint.

2/ The total yearly capacities of chick hatcheries were obtained by multiplying incubator capacities by 15 and of turkey hatcheries by multiplying incubator capacities by 12.

SEASONAL HATCHINGS OF CHICKS AND POULTS



DATA FOR UNITED STATES, 1958.

U. S. DEPARTMENT OF AGRICULTURE

NEG. 8458-61 (3)

AGRICULTURAL MARKETING SERVICE

Figure 2.

Table 20.--Number of chick and poult hatcheries and incubator capacities by regions, 1959

Regions	Number of hatcheries				Egg capacity			
	Chickens		Turkeys		Chickens		Turkeys	
	Number	Number	Number	Total	Thousands	Thousands	Thousands	Average
New England	152	65	217		25,799	1,077	26,876	123.9
Middle Atlantic	458	113	571		44,194	3,388	47,582	83.3
East North Central	785	115	900		80,892	7,598	88,490	98.3
West North Central	1,274	207	1,481		125,768	26,197	151,965	102.6
South Atlantic	559	86	645		113,471	7,238	120,709	187.1
East South Central	294	19	313		44,330	1,100	45,430	145.1
West South Central	411	139	550		56,371	6,275	62,646	113.9
Mountain	88	25	113		7,168	1,742	8,910	78.8
Pacific	236	133	369		32,064	13,273	45,337	122.9
United States	4,257	902	5,159		530,057	67,888	597,945	115.9

Source: Crop Reporting Board, ERS, USDA.

Table 21.--Number of hatcheries responding to questionnaire, by region and incubator capacity

Regions	Number of hatcheries according to egg capacity of incubators				Percent distribution of hatcheries according to egg capacity of incubators			
	Under :100,000		:100,000-:500,000 and :100,000-:200,000-:499,999 : over		Under :100,000-:200,000-:499,999 : over		:500,000 and over	
	Number	Number	Number	Unknown	Number	Percent	Number	Percent
New England	8	4	5	---	29	4	28	14
Middle Atlantic	23	10	10	---	53	8	43	19
East North Central	30	22	31	---	93	14	32	24
West North Central	57	46	31	---	150	24	38	30
South Atlantic	16	20	37	2	119	20	13	17
East South Central	14	9	13	1	55	8	25	16
West South Central	11	16	19	3	55	11	16	23
Mountain	7	3	5	---	18	9	38	17
Pacific	17	14	16	---	57	2	29	25
Total	183	144	167	12	643	100	29	22
							26	2

Table 22.--Distribution of 643 hatcheries, by area and type of chicks and poultts hatched

Geographical areas	Type of hatchery											
	: : :			: : :			: : :			: : :		
	: Broiler :			: Broiler and :			: Broiler and egg-type :			: Egg-type and :		
	Number	Percent	Number	Number	Percent	Number	Number	Percent	Number	Number	Percent	Total
New England	7	5	4	12	---	---	---	---	1	29	4	
Middle Atlantic	3	24	6	20	---	---	---	---	---	53	8	
East North Central	9	46	6	25	---	---	5	2	2	93	14	
West North Central	4	97	13	23	---	---	2	11	---	150	24	
South Atlantic	77	10	4	19	6	---	3	---	---	119	20	
East South Central	28	7	4	14	1	---	1	---	---	55	8	
West South Central	26	7	5	17	4	---	7	3	---	69	11	
Mountain	1	6	5	4	---	---	1	1	---	18	2	
Pacific	5	15	20	13	1	---	2	1	---	57	9	
Total	160	217	67	147	12	21	19	643	100			
Percent	25	34	10	23	2	3	3	100				
: : :												
Geographical areas	: : :			: : :			: : :			: : :		
	: Broiler :			: Broiler and :			: Broiler and egg-type :			: Egg-type and :		
	Number	Percent	Number	Number	Percent	Number	Number	Percent	Number	Number	Percent	Total
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Total
New England	24	17	14	42	---	---	---	---	3	100		
Middle Atlantic	6	45	11	38	---	---	---	---	---	100		
East North Central	10	50	6	27	---	---	5	2	---	100		
West North Central	3	65	9	15	---	---	1	7	---	100		
South Atlantic	65	8	3	16	5	---	3	---	---	100		
East South Central	51	13	7	25	2	---	2	---	---	100		
West South Central	38	10	7	25	6	---	10	4	---	100		
Mountain	6	33	27	22	---	---	6	6	---	100		
Pacific	9	26	35	22	2	---	4	2	---	100		

